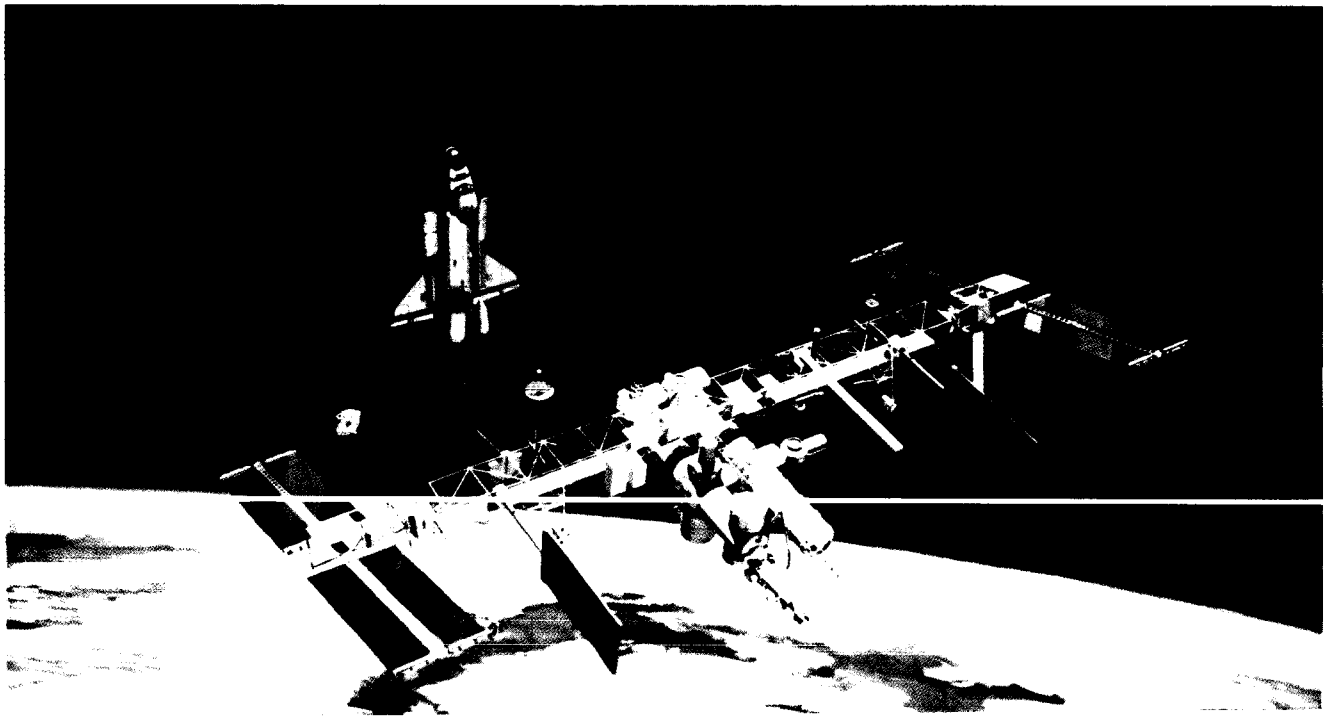
SUMMARY OF FINDINGS OF NASA/CONTRACTOR CONFERENCES 1984-1986

EXPLORING THEMES FOR MUTUAL ACTION



APRIL 1987

EXPLORING THEMES FOR MUTUAL ACTION

SUMMARY OF

NASA/CONTRACTORS CONFERENCES

ON QUALITY AND PRODUCTIVITY

1984-86

April 1987

THIS SUMMARY IS BASED ON REVIEWS OF THREE NASA/CONTRACTORS PRODUCTIVITY AND QUALITY ENHANCEMENT CONFERENCES

1.	Marshall Space Flight Center, Alabama (Hardware Contractors)	April 26-27, 1984
2.	Marshall Space Flight Center, Alabama (Part I - Hardware Contractors)	June 12-13, 1985
3.	Kennedy Space Center, Florida (Part II - Service Support Contractors)	June 19-20, 1985
4.	Ames Research Center (Palo Alto), California (Hardware and Service Support)	May 7-8, 1986

EXPLORING THEMES FOR MUTUAL ACTION

SUMMARY OF NASA/CONTRACTORS CONFERENCES PRODUCTIVITY AND QUALITY ENHANCEMENT 1984-86

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FOREWORD

NASA/Contractors:

Exploring Themes for Mutual Action: Summary of NASA/Contractors Productivity Conferences 1984-86 is presented to you as part of NASA's effort to compile and share quality and productivity improvement information on a continuing basis.

"Quality and Productivity" is a potent issue in the country today. NASA has attempted to address this issue by instituting, among other activities, an annual NASA/Contractors Conference where key productivity issues are identified and evaluated.

A very important effect of our Nation's quality and productivity efforts is an increase in our competitiveness in the world market. The future economic well-being of our country and the people who enjoy its high standard of living depend on increased efforts to improve our competitive standing among the leading industrial nations of the world. The Nation needs to emphasize the quality of industrial products and services. The Administration is making a national priority of restoring U.S. competitiveness to its former number one position in the world market. There is currently a concerted movement in Government to increase the ratio of productivity, as evidenced by the President's Executive Order on Productivity. NASA will take a positive position among Government agencies by advocating quality and productivity efforts in its work with its aerospace contractors, and with other U.S. industries to help the Nation in its goal to increase global competitiveness.

It is clear that joint responsibility and a shared effort in pursuit of improved quality and productivity are the cornerstones on which NASA and its contractors can build an enduring relationship, leading ultimately to successful attainment of the prescribed goals. We believe the publication of this summary of our conferences will be helpful in achieving these objectives and in making future conferences more meaningful and productive.

James C. Fletcher
Administrator

INTRODUCTION

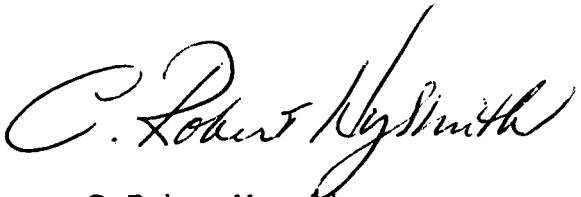
Historically, the close NASA/Contractors team relationship has been the basis for important technological achievements for the Nation and the U.S. space program. Since 1984, the NASA Office of Productivity Programs has held annual conferences with its contractors to review and discuss key issues of Productivity Improvement and Quality Enhancement (PIQE). Therefore, it is believed that, in view of the current national productivity emphasis, an assessment of and recommitment to factors which contribute to success can provide meaningful direction both to the agency and its contractors and to the Nation as a whole in the varied areas related to improving quality and productivity.

The annual conferences took the form of working groups, panels, and general sessions. In all cases, a free exchange of experience and opinions was encouraged and issues were considered on the basis that they could provide a learning experience. In 1983, the contractors identified some impediments to productivity and these were subsequently addressed in terms of recommended changes that NASA could make in the administration of programs and in steps its contractors could take to improve their product or services--mutual actions that could be taken. The premise was that productivity and quality improvement is most possible through combined efforts; it was reported at the outset of the conferences that NASA's future success would depend more and more on mutual support and nonadversarial relationships with its contractors. In this spirit, the NASA/Contractors Conferences are planned to continue on an annual basis with the next one planned for the fall of 1987.

The following summary of results from the conferences is presented in terms of applicability to NASA's nine PIQE themes or goals. The goals are divided into two types of recommended actions: those that rely on individual managerial actions (goals 1, 5, 6, 7) and those that depend on organizational priorities (goals 2, 3, 4, 8, 9). Several elements within the nine themes overlap in these two groupings.

The summary represents a selection of significant statements that were pertinent to the focus of the individual conferences and serve to illustrate the overall issues addressed.

They also highlight the areas yet to be addressed at upcoming NASA/Contractors Conferences. Some of the areas mentioned, but not addressed in detail e.g., measurement, gainsharing, procurement processes, will be topics for future conferences. Contractors are encouraged to let us know of additional major successes or impediments that enhance or inhibit productivity and quality. These are the areas we want to share or jointly pursue to make future conferences more meaningful and productive.



C. Robert Nysmith
Director
NASA Productivity Programs

Theme 1: Involve Top Management To Provide Leadership and Direction

The 1984, the NASA/Contractors Productivity Conference called for the active involvement of top management in productivity efforts. It was said that upper management must take a lead role in orchestrating the totality of effort, and then actively participate in the train of events needed to create and institutionalize quality and productivity. Management attitude was characterized as the most important ingredient in making quality and productivity programs work. Managers in industry, starting with the Chief Executive Officer, must not only be committed but visibly involved. The Communication/Directions Working Group of this conference cited top management involvement as essential. An action item from the group called for the NASA Administrator to personally communicate with top-level contractor executives to indicate commitment to the effort and to solicit their support. Both NASA and its contractors were advised to appoint full-time, top-level executives to lead productivity programs.

The 1985 conferences continued the emphasis on this theme. Eighty percent of the responsibility for productivity improvement was assigned to management which must work the system and lead the effort, provide the will, the belief, and the wherewithal. An attitude of top management support is the first practical step; it must be developed to nurture the application of quality and productivity into the culture of the organization. If "attitude" is absent, there will not be a dedication to a Productivity Improvement and Quality Enhancement program up and down the line.

At the 1986 conference, the call was for a renewed commitment to excellence to be spearheaded by senior management. Top management is instrumental in instituting quality consciousness. Failure results when this critical support is nonexistent or weak.

Practical means of gaining top-level commitment were discussed. It was suggested that the attention of upper management to the impact of quality may be achieved through communicating in a commonly spoken language--dollars. Executive management quality seminars were advocated in some instances. Such sessions can serve to acquaint senior management with ways of becoming more visibly and effectively involved.

The sponsorship of and participation in the conferences were in themselves a demonstration of top management commitment. To express his support, the NASA Administrator attended most of the conference sessions. The reports of contractor organizations repeatedly reflected the impact of executive leadership. Given the long timeframe required for a successful productivity effort, the significance of ongoing, persistent executive support is clear. Those individuals involved in quality/productivity programs must continue to communicate with top management on these topics and to derive an essential impetus from the support and involvement offered.

Theme 2: Set Goals That Promote World Class Levels of Quality

Productivity and quality enhancement goals were widely discussed at the 1984 conference. It was noted that goals are the basic framework for any program and are essential to creating an environment that will release the creative and entrepreneurial spirit. The annual key objectives of an organization must be preceded by a well-developed set of quality improvement goals. The sometimes powerful results from goal setting were pointed out; instances whereby projected goals were significantly exceeded served to suggest possibilities for productivity improvement that could outreach the vision of management. There was a call for NASA and its contractors to set quantitative productivity goals. This was specified in the proposal that NASA initiate all new projects with a meeting to discuss and clarify goals.

The 1984 conference provided an opportunity for NASA to set forth the strategic goals of the PIQE Program, which include an overall agency goal of establishing NASA as a leader in the development and application of advanced technology and management practices which would contribute to a significant increase in both agency and national productivity. Key elements of this goal were identified for improving NASA operations, using NASA as a model for other Government organizations, and making a positive impact on national productivity and competitiveness. NASA contractors were invited to participate in the realization of these goals and to use them as a springboard from which to develop goals relevant to each of their own organizational cultures. To help carry out these goals, NASA instituted an annual NASA Excellence Award for Quality and Productivity for its contractors. The NASA Excellence Award for Quality and Productivity was created and executed in 1985. The award was intended to serve, among other things, as an incentive to motivate contractors to improve quality and productivity in their organizations and to spur technology transfer of outstanding quality and productivity innovations from award winning contractors to U.S. industry. There were six finalists chosen in 1986 for outstanding quality and productivity performance and NASA documented the notable accomplishments of the finalists and distributed the document throughout the aerospace community as well as provided various forums for the finalists to discuss their accomplishments with other organizations. In 1987, there were seven finalists chosen in the Excellence Award program and a similar process is planned.

The 1985 conferences featured the discussion of goals in terms of strategic planning and as specific objectives that reinforce the belief in productivity improvement as a long-term process and commitment. Overall objectives can be endorsed by top management with a view toward excellence. Elements of these objectives must then be divided into specific areas for application and assignments made for their implementation. In this way, the transfer of widely based goals into the immediate work structure can be accomplished.

The 1986 conference introduced the subject of goals in light of the productivity plans submitted to NASA by each of its centers. It was advocated that productivity goals be set in consideration of those areas deemed likely to have the highest payoff. Strategic planning is a critical prerequisite of productivity goals, and organizational self-analysis is required to ensure the adoption of viable objectives. Goals are viewed as valuable tools requiring extensive forethought and an orderly program of implementation. The implication of the conferences is that without well-founded goals, quality and productivity programs cannot succeed.

Theme 3: Support New Technology and Modernization in the Organization

Implementation of new technology was repeatedly advocated at all the NASA/ Contractors Conferences. In 1984, the call was for the discard of outmoded policies and practices and the embrace of new ideas. Bureaucratic systems must be replaced with improved and sound management systems. It was suggested that centers for excellence be formed so that there could be joint exploration of next-generation computers, advanced robotics, flexible manufacturing systems, and just-in-time inventory systems. In 1985, it was noted that the benefits of a myriad of new, powerful hardware and software systems made the workplace an exciting and promising arena with new possibilities for the enhancement of worklife.

The economics of this investment was recognized; it was said that we need to get more for our technology dollar than ever before. It was also recognized that new technology has a strong link to U.S. viability in the world marketplace, especially in light of the report of the President's Commission on Industrial Competitiveness. The findings were that technology is highly mobile; other nations are applying it more aggressively than we are. The answer lies in our applying technology quickly to return ourselves to a position of preeminence. Reports by conference participants attested to the benefits derived from technology upgrades. It was said that the elimination of antiquated processing equipment had significantly reduced downtime and stimulated productivity.

The 1986 conference included testimonials to the benefits of technology improvements. It was stressed that areas with the possibilities for highest payoff should be first addressed. Experience with coordination of upgrade plans shows that overall strategy has a great impact on both the effectiveness and economics of modernization. Major savings have been realized through the transfer and sharing of equipment and new expertise.

To meet a key element of NASA's productivity goal in becoming a leader in the development and application of advanced technology, the exchange of data on modernization is a necessity. Both NASA and its contractors share an enthusiasm for the possibilities available and the goal is to ensure that quality is at the forefront of technology improvement.

Theme 4: To Promote Teamwork and Create an Innovative and Challenging Climate in the Workplace

At the 1984 conference, it was recommended that major emphasis be given to working together as a team. This was said to be strongly related to the quality of leadership and to be first dependent on the creation of a culture based on trust. The Team approach provides a resource consisting of the collective energies, talents, dedication, and resourcefulness of all segments. Such an interaction between NASA and its contractors was specified in a working group directive that joint team meetings be held to identify objectives, strategies, and measures and to encourage innovation and provide technical/program interchanges. Basic to these recommendations is the assumption of an organizational and individual desire to work together for the mutual satisfaction of a significant achievement.

At the conferences in 1985, the Productivity Council items for team building were reviewed: (1) publicly reward people; (2) hold people accountable; (3) provide information, resources, and training; (4) set up NASA/Contractors forums at each center; and (5) involve all employees. Incentive programs were reported and were strongly linked to the development of team spirit. The message to the work force is that the status quo is not acceptable, and the participation of all employees is needed to gain improvement. It was noted that the process of change is a result of a collective change of attitude. The first step is to convince employees that productivity progress is a group responsibility and challenge and will be beneficial to them.

The 1986 conference reiterated these steps to Team building. The emergence of processing work patterns necessitates more subtle, skilled employee motivation. This leads to a consideration of the quality of work life and its direct relation to team spirit. Future productivity avenues may be opened through quality circles, suggestion programs, and employee problem-solving teams. These efforts can be successful by fostering a team concept that ensures objective relationships and discourages adversarial roles.

The NASA approach to team building is based on challenge, responsibility, pride, motivation, skills and growth, and communication. The overall message of the conferences was that achievements can be realized by the agency, its contractors, and their suppliers through a team approach to delivering a quality product or service.

Theme 5: Use Participative Management Techniques To Increase Contributions

The introduction to the 1984 conference characterized people as the greatest resource and advocated that steps be taken to enhance the quality of their performance, with particular emphasis on getting them involved in the identification and solution of problems through a participative approach to management. Participative management was said to have possibilities for a dramatic impact on productivity. By challenging the intelligence of employees and appealing to their innate sense of quality, individuals take a new pride in their work and develop a personal stake in reliability, quality, and productivity.

At the 1985 conferences, it was suggested that there is a need to reinforce a management style that encourages employee participation. As part of the Contractor Productivity Initiatives, improved management practices involved development of a participative management ethic. A first step in implementing a more participative work environment is to establish and build managerial trust and credibility. Workers should be given the opportunity to the maximum extent possible to participate in planning, controlling, and measuring the work they perform. This participation generates enthusiasm and teamwork within the organization. It was recognized that delegation of authority fosters innovation and a commitment to the program that is identifiable with and contributes to mission success. A strong point was made that managers cannot effectively involve the work force unless they themselves are clear as to goals, issues, and obstacles.

Organizational reports at the 1986 conference highlighted steps taken to promote participative management--the expansion of quality circles or their variants, gainsharing, suggestion programs, and the institution of management productivity training. There was realization that long-term benefits of employee participation are in the areas of quality improvement and cost savings. The experiences demonstrate that participative management requires both commitment and investment.

Theme 6: Develop Good Communication Among Employees, Contractors, and Suppliers

A working group of the 1984 conference advised that forums be held at each center to enable NASA and contractor representatives to communicate on the specifics of their work. The group also advised that increased effort be made to improve communication through newsletters, suggestion systems, and quality circles. Better communication was generally identified as one of the most important elements in productivity improvement. Organizational communication was described as letting people know what is being done and what is expected from them. The exchange of this kind of information between NASA and its contractors was acknowledged to be highly useful in successfully achieving group objectives.

At the 1985 conferences it was said that the work process must be balanced with a communication plan that keeps employees informed of significant organizational events in combination with regularly scheduled meetings conducted by supervisors and management. Communicating is the main link between facets of the work force and is essential to the long-term effectiveness of the improvement process.

In 1986, communication was again discussed as a management responsibility and opportunity. Benefits were realized when supervisors communicated directly with employees outside of regular meetings to exchange perception of the issues and convey a sense of individual responsibility for excellence. Good communication was seen to lead to raised employee morale, a key element in productivity improvement and quality enhancement.

Theme 7: Stimulate and Promote Individual Talent

The development of individual talent was directly linked to both participative management (Theme 5) and education and training (Theme 8) and at all of the conferences. The 1984 conference suggested a shared-growth program that would include advanced educational opportunities for both professional and nonprofessional employees. In 1985, it was said that management must actively identify and use the skills and experience of people working with them. This involves the full use of human resources, seeing that the right person is placed in the right job with a work environment that is supportive of quality and productive outputs. The intent is to achieve an orderly, effective, development plan based on provisions for individuals to improve their strengths. This process requires consideration of individual interests, ambitions, talents, characteristics, education, and experience.

The role of quality circles in fostering participative management and leadership was noted. Management's role in the development of individual talent is crucial; it is up to management to ensure that the right employee, with the proper attitude and necessary skills, is provided for the task.

The 1986 conference suggested new ways for individual potential to be identified and fostered. A mentor program can sponsor relationships between new and established employees providing support for new employees and for their growth and participation in the organization. The bases for nurturing individual potential were described in terms of leadership as a learned skill and contributions as something to be sought from each employee.

Theme 8: Give Priority to Education and Training

NASA has always believed that it must operate with the finest professionals available in the various disciplines that make up the teams that are required to carry out successfully the aeronautics and astronautics missions of the agency. When the agency was formed in 1958, and subsequent to that in its early history, organizational transfers brought NASA the finest group of scientists, engineers, and managers that were available in the Nation; however, updating their professional knowledge through education and training remained as an agency priority.

Education and training were discussed throughout all the conferences as a vital factor in the development of the current and future work force. In view of rapidly advancing technology, re-educating and re-training were seen as ways to maintain flexibility and enhance productivity. Because the future ultimately will be affected by the quality and training of the work force, it was suggested that an alliance among the NASA/Contractors group, other Government agencies, and educational institutions would provide an impetus to technical skills and help satisfy the serious shortage of critical scientific and vocational skills. Management seminars were also recognized as part of the education program.

Theme 9: Develop and Implement Means To Evaluate (Measure) Performance

The development of measures of performance was not extensively addressed at the outset of the conferences because other issues received primary focus. Assessment of productivity progress is nevertheless a necessary part of evolving a substantive program, and in 1985 it was noted that ways must be established to measure people and production resources, compare progress, and construct statistical ratios to verify results. A measurement system is required to be responsive also to tracking the costs of nonconformance to requirements--those things that contribute to the "un-quality" of the final product or service. Measurement was also characterized in terms of determining whether product improvements, quality improvements, and corrective actions were making a favorable impact, including those of cost effectiveness. A significant benefit of measurement was noted to be its usefulness in turning the attention of upper management to the impact of quality on the bottom line.

In 1986, measurement received more attention as organizations reported on first-hand experience. It was stated that meaningful productivity measures should be developed at the local level. This could be accomplished through a decentralized measurement process whereby groups of employees agreed on relevant objectives and methods to measure progress. Pilot measurement projects were in progress and it is expected that forthcoming reports will provide new data in this area.

CONCLUSIONS

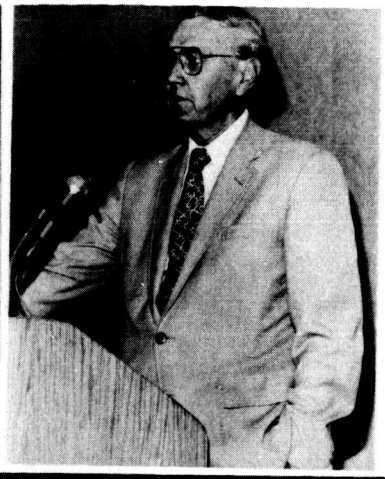
A review of the material presented and generated at the NASA/Contractors Conferences of 1984, 1985, and 1986 reveals a consistency and reinforcement of NASA's nine Quality and Productivity themes. The conferences call for more management support, well-designed goals, purposeful communication, and increased attention to employee involvement and the quality of the workplace. Creating a viable NASA/Contractors productivity alliance has clearly confirmed the original contention that a program of this nature must necessarily be a long-term commitment. Progress has been made, but the consensus is that a tremendous amount of work remains to be accomplished.

Specifically, the numerous impediments/recommendations (see appendix) that resulted from the 1984 conference were carefully reviewed by NASA and the contractors. While most of the recommendations were directed to NASA and actions were taken, feedback on the actions taken by both NASA and the contractors have not been adequately documented. Clearly, there is a need to follow up in this area in order to ensure that improvements are achieved.

NASA's nine themes have served as a useful vehicle for breaking down the tasks and identifying key elements to be addressed. However, it was obvious that the substantial interelation among the themes makes it difficult to meaningfully separate one from another. A team climate breeds good communication; development of individual talent cannot be addressed without a priority to education and training. This thematic interrelation is not unlike the essential connection required among the high technology involved. The lessons from the conferences that have taken place so far strongly validate the essential interdependence of NASA, its contractors and their subcontractors, and suppliers. This need for mutual support and understanding among the groups has always been recognized. The wide scope of the productivity and quality improvement program now provides a unique opportunity to demonstrate it to the benefit of all concerned.

Finally, it is observed that productivity improvement and quality enhancements become greater as the efforts proceed. The indications are that what was initially perceived as a quest to regain and maintain a large share of the world marketplace has a broader base than economic competition. The key appears to be that better quality leads to increased productivity and, therefore, results in improved competitiveness. References to quality are increasingly noted and the organizations involved have elected to address the issue principally from this standpoint. With goals as great as these, the NASA/Contractors team is challenging itself to make a far-reaching contribution to the current era.


Flight Center
NASA









APPENDIX

IMPEDIMENTS/RECOMMENDATIONS IDENTIFIED AT THE FIRST MARSHALL 1984 MEETING

A. Communications/Directions Working Group Recommendations

(1) NASA should demonstrate total commitment by:

a) Transmitting its PIQE goal to all contractors in a formal manner by the issuance of policy statements.
b) Having the NASA Administrator communicate personally with contractor top executives and solicit their support.
c) Requesting a formal response from contractors identifying:

1) Points of contact.
2) Projects for implementation.
3) Method of flowing down requirements to suppliers and subcontractors.
4) Feedback mechanisms.

d) Requiring equal commitments from its organizations and centers.
e) Selecting highly visible projects/tasks and emphasizing the productivity aspects.
f) Assuming an active role in creating a national policy for productivity quality improvement.

(2) Contractors should demonstrate total commitment by:

a) Including productivity in their goals, objectives, and strategic and operating plans.
b) Naming points of contact and creating a management structure to implement productivity efforts.
c) Pushing productivity efforts down to the lowest level in their organization.
d) Making productivity a line management responsibility.
e) Requiring productivity reports as a regular part of their management review process.
f) Including productivity as an element in compensation, recognition, and reward determinations.

(3) NASA and contractors should demonstrate total commitment by:

a) Appointing full-time top-level executives to lead the productivity efforts.
b) Institutionalizing productivity, i.e., it is a way of life and not a fad.
c) Quantifying productivity goals, making every effort to measure them and being held accountable.
d) Instituting separate and joint training and education programs to facilitate reaching all employees.
e) Adding productivity to the inherent cultural set which for 25 years has included performance, quality, mission success, operating lifetime, etc.

(4) NASA and contractors should force commitment down by:

a) Publicly rewarding people for productivity accomplishments.
b) Holding people accountable for identifying and implementing productivity ideas.
c) Providing information, resources, and training.
d) Setting up forums at each center with NASA and contractor representatives to come up with specifics, e.g., procurement, engineering, operations.
e) Involving all employees through newsletters, suggestion systems, group discussions, quality circles, Nominal Group Technique, etc.

(5) NASA should provide input toward creating a national policy by:

a) Supporting and encouraging contractor membership in productivity professional societies that foster the dissemination of productivity information.
b) Injecting itself into the White House Conference on Productivity and ensuring that there are specific Government initiatives designed to enhance the productivity of the aerospace industry.
c) Creating a national award to recognize contractors for significant productivity achievements.
d) Holding an annual meeting comparable in stature to the White House Conference to assemble, communicate, and recognize the participants in their PIQE program.
e) Leading a long-term effort with contractors to jointly find ways to improve our educational system.

(6) NASA should revise its management style by:

a) Issuing a policy paper encouraging and supporting a more efficient high-level management interface with contractors.
b) Substituting mutual trust instead of an adversarial role.
c) Delegating management tasks to the lowest possible level and minimizing upper level reviews.
d) Issuing a policy paper encouraging and supporting a management approach of specifying "what" rather than "how to."
e) Issuing a policy paper encouraging and supporting a management approach of using contractor specifications, procedures, processes, management systems, and forms.
f) Holding managers strictly accountable as the single point of direction policy with both responsibility and authority.
g) Conducting separate and joint management training with contractors to enhance management skills.
h) Striving with contractors for lean and effective management teams and using simple measurements e.g., per person, to provide a comparison for management evaluation.
i) Using both its own and contractor's corporate memory and lessons learned.

j) Recognizing the 80/20 principle and concentrating 80 percent of their energy into the highest pay-off tasks.
k) Reducing the fuzzy scope and ill-defined funding in the contractual system, keeping the contract clean both technically and fiscally. A simple measurement of dollars times days could provide an indicator of contractual integrity.
l) Retaining many focuses of interaction with contractors but utilizing only one point of contact on both sides for direction and response.
m) Adopting the multi-year funding concept to eliminate program instability and inefficiencies.
n) Adopting long-term contracting to facilitate long-term benefits instead of short-term gains.
o) Adopting a value engineering clause with the intent to "allow contractors to make a buck when deserved because of overall cost savings."

(7) Improve productivity with effective communications by:

a) Kicking off all new projects with a meeting to discuss goals, objectives, communication and direction.
b) Making productivity a regular part of every NASA, contractor, and joint management review meeting.
c) Providing better definition prior to commitment, then freezing the design and sticking to it.
d) Maintaining good definition and a common baseline with timely action on both sides and clear-cut channels of direction and response.
e) Encouraging innovation in new forms of communication techniques.
f) Developing improved listening ability among the managers and prompt awards for innovative ideas.
g) Encouraging informal communication channels but establish clearly that informal communications cannot address direction or changes.
h) Making more effective use of qualified in-plant representatives with onsite decision-making ability.

B. Service Support/Contractors Working Group Recommendations

(1) Prepare productivity plan with objectives to:

a) Focus on productivity.
b) Foster development methodology and metrology.
c) Encourage productivity investments.
d) Reward productivity performance.

(2) In the contract procurement process:

a) Make the productivity plan a requirement.
b) Make the productivity plan a scored element in proposal evaluation.
c) Stimulate/do not discourage productivity investment.
d) Include possible contract extension option to:

1) Encourage investment.
2) Encourage continuous productivity improvement.
3) Check extension for appropriateness based on type and dollar size of contract, need for competition, cost of competition and benefits of competition.
4) Extension should pass a performance and cost gate.
5) Use productivity trend evaluation as an input for exercising extension option (minimum of 2 years for trend data).

(3) In the productivity management process:

a) Productivity plans should be locally negotiated and implemented.
b) Include variables in productivity plan contents for:

1) Cost savings/sharing.
2) Equipment investments.
3) Awards.
4) Quality circles.
5) Organization climate for innovation.
6) Specific measurements.

c) Place technical officer and technical monitors at appropriate level.
d) Base contract performance on results (technical, schedule, and cost) but not on the process.
e) Balance management style (micro/macro) with contract type.

(4) In the NASA/Contractors arena, communication should be:

a) Multi-level at appropriate intervals.
b) Fostering a team concept to ensure objectivity in the relationships and to discourage adversarial relationships.
c) Providing public recognition for performance.

(5) In the award fee area, we should:

a) Improve consistency of the evaluation structure across NASA.
b) Increase objectivity in the award fee process, emphasizing results rather than process evaluation.
c) Minimize unnecessary delays in the award fee process.
d) Update and reissue the award fee handbook.

(6) Recommend initiation of a pilot productivity plan project on:

a) A new procurement.
b) An existing contract.

(7) Incorporate accepted recommendations from this working group in support service contract and in an NMI.

C. Productivity Impediments (Procurement Area)

(1) Increase contract productivity incentives by:

a) Improving the effectiveness of fee-earning potential as a motivator.
b) Improving the fee evaluation process.
c) Improving worker motivation.
d) Reducing cost and time of contract change actions.
e) Matching the contract form to the program maturity phase.
f) Publishing a list of agencywide good practices in the award fee criteria and evaluation area.
g) Making it possible for contractor to earn 100 percent of available fee.
h) Ensuring provisional fee payments.
i) Ensuring fee plan is dynamic and will be changed when appropriate.
j) Giving contractor opportunity to make inputs on establishment of award fee criteria.
k) Ensuring that contractor knows and understands criteria and what is important to Government prior to evaluation period.
l) Providing interim performance reports to contractor.
m) Providing contractor with an opportunity for self-appraisal.
n) Using someone other than project manager as a fee determination official.
o) Provide contractor with an avenue of appeal in fee determination.
p) Shifting emphasis from micro to macro award fee plans.
q) Considering use of unearned fees for special achievements.

(2) Improve recognition/reward for groups or individuals for creative management or PIQE by:

a) Creating an environment where managers and workers are motivated to seek and implement improvements.
b) Ensuring that NASA and contractors publish performance goals and evaluation criteria and publicize it to all worker levels.
c) Publicizing performance results/accomplishments to all worker levels.
d) Encouraging contractors to employ effective fee-sharing and performance recognition programs.
e) Cross-training NASA personnel to broaden perspectives.
f) Increasing emphasis on NASA employee motivation and productivity recognition programs.

(3) Correct untimeliness of contractual action by NASA by:

a) Adopting a dollar threshold concept which reduces contract changes that result in cost adjustment to contract.
b) Increasing management attention to administration of contract changes.

D. Standardization/Pre-Planning/Regulations/Requirements

(1) In the project pre-planning area:

a) NASA should be consistent in formally appointing a project manager and assigning specific responsibilities to the centers earlier.
b) Project manager should be given expanded authority to make timely determinations regarding specifications, program philosophies, operating procedures, support requirements, etc.

(2) In the definition phase:

a) NASA should recognize importance of this critical pre-development activity and should allocate appropriate and adequate resources (manpower, funds, and schedules/priorities) to ensure complete end-to-end systems engineering.
b) Project manager, following early appointment, should formulate, distribute, and use a program outline plan and check sheets to ensure completeness and proper coordination/integration of all pre-development planning.

(3) In the pre-solicitation/conceptual period:

a) NASA should expand and make more frequent notifications to industry of planning for future projects. Use of commerce business daily and industry/Government conferences to provide overall awareness, followed by smaller sessions with qualified participants from NASA and industry to engage in specific discussions. Sensitive data (in-house cost estimates and industry proprietary information) would be protected.

(4) To ensure technology availability:

a) NASA should solicit technology status and forecasts on a continuing basis from industry, universities, and Government R&D activities.
b) For specific projects, NASA should develop technology requirements and timing after acceptance of realistic project performance objectives.
c) Requirements data should be circulated to industry, universities, and other R&D activities to determine feasibility of requirements and schedule, definition of how technology availability can be ensured, and what alternatives and/or trade-offs are available.

(5) Early development and distribution of planning data should be made by:

a) Releasing program plan incrementally to all prospective plan participants for review, comments, and use.
b) Making available the total or final plan as early as possible in the pre-development phase to form the technical and philosophical baseline against which detailed plans and cost estimates can be developed.

(6) Productivity improvement planning should:

a) Enlist industry aid to develop guidelines for appropriate productivity improvement programs during pre-development for implementation in later phases.
b) Include productivity improvement program provisions in resultant procurements.

(7) Standardization/flexibility recommendations are:

a) Increase use of common standards/specifications among centers. Impediments to overcome include duplicate center and contractor documentation, reluctance to use documents prepared or controlled by others, and lack of cost-benefit data on standardization.

Proposed changes are as follows:
1) Compile a list of NASA specifications and standards.
2) Coordinate and reduce documentation using intercenter/industry working groups.
3) Identify specifications, standards, and technical procedures that unnecessarily drive up program costs.
4) Identify appropriateness of specifications to project phases and criticality.
5) Establish management of specialty areas through lead centers.

b) Optimize the use of DoD specifications and industrial standards by:

1) Determining current state of NASA-DoD standardization efforts.
2) Compiling experience data, including costs associated with use of standards and non-standard approaches.
3) Establishing procedures for utilizing standardization practices and the DoD specifications and standards system.
4) Ensuring flexibility in the use of standardized documents.
5) Providing greater awareness and utilization of DoD services.

c) Encourage flexibility in using Contractor Management systems which meet NASA objectives by:

1) Identifying the critical elements of each of the Management systems.
2) Preparing checklists to enumerate the important factors that must be present to make system compliant with NASA needs.
3) Providing enough information for contractor to determine if the developed system might satisfy NASA objectives.
4) Providing NASA Management Systems and formats as a guide only for those contractors who may not have a developed system.

d) Facilitate tailoring of contract requirements by:

1) Ensuring that enabling management procedures exist to support the tailoring process.
2) Requiring a major effort directed at tailoring early in contract phase "C" to ensure that requirements make maximum use of contractors' existing systems.
3) Having NASA remain flexible through phases "C" and "D" to accommodate ongoing changes and use the more detailed information which could change applicability of an earlier requirement.
4) Providing any additional resources to provide necessary NASA expertise in real time to support this more flexible approach.

e) Provide greater uniformity in NASA project management practices by:

1) Encouraging NASA management practices to be more uniform between centers and even within a particular center to enhance productivity.
2) Providing agencywide project management training in acquisition strategy, risk management, communications management, cost control, and Government/industry relations.
3) Including NASA project managers in industry exchange programs for better perceptions of industry practices to enhance management practices for greater productivity.

E. Productivity/Quality Initiatives

(1) Heighten awareness by completing development of seminar and continuing with training, workshops, and communications.

(2) Increase employee participation by including "indirect" worker participation.

(3) Reduce impediments by upgrading procurement process and capability.

(4) Get higher contractor motivation by:

a) Being more alert for "team effort" opportunities/structures.
b) Continuing with incentive contracting thrust.
c) Developing or expanding incentive investment opportunities.
d) Improving and minimizing reviews.

(5) Try new management processes such as:

a) Establishing Quality Improvement Initiatives.
b) Developing and testing Quality Improvement Initiatives.
c) Continuing CAD/CAM/CAI Emphasis.
d) Designing for producibility.

(6) Evolve productivity analysis methods such as:

a) Macro Measurement-MBO.
b) Periodic productivity reviews.
c) APC study results - "indirect" worker.

(7) Noting and diffusing results by:

a) Setting up Systems Technology Centers-Consortia.
b) Endorsing Award/Recognition Emphasis.
c) Continuing with this agency/contractor council.

SUMMARY OF RESULTS FROM CONFERENCE SURVEYS

At the conclusion of the 1985 and 1986 conferences, a questionnaire was distributed to the attendees to survey their views on the quality and effectiveness of the panel presentations.

The 1985 conference was held in two sections--one at Marshall Space Flight Center on June 12-13, and at Kennedy Space Center on June 19-20. Each was surveyed separately and the critique of them follows. The critique items can be used as learning guidelines.

June 12

NASA Panel "A" Interim Report on Implementation Plans

Comments:

Should be more:
- quantitative data
- conciseness and clarity of viewgraphs
- consistency of reporting (format and time)
- detail in "how" to implement initiatives
- description of implementation problems and solutions
- need tighter panel theme
- questions not adequately answered
- approach should be "response to the recommendations"
- "actions, successes, failures"

NASA Panel "B" Interim Report on Implementation Plans

Comments:

Should be more:
- quantitative data
- consistency of reporting (format and time)
- description of implementation problems and solutions
- "measurements"
- "how to implement"
- should have "on-group" sessions
- visuals
- streamlining and contract incentives

Panel "C" Productivity Initiatives/Incentives

Comments:

Should have:
- specific measurement techniques
- comparison of techniques
- better control of timing
- statement of objectives of the new areas
- less focus on process, more on results

These were helpful and thought-provoking:
- APC
- White Collar Report
- long-term improvement
- yield management well integrated

Panel "D" Quality Improvement Initiatives

Comments

Need more:
- discussion suggestions
- concrete mechanisms
- examples used
- quality costs
- quality audit
- CAD discussion
- supplier measurement quality

These were helpful and thought-provoking:
- IBM and Rockwell
- Planning Approach WBS (Peller)
- Malone was thought-provoking, effective, great!

Panel "E" Productivity and Quality Incentives

Comments:

Ineffective:
- provide the successes and problems

These were very good:
- PMP and gainsharing
- productivity incentives
- Honeywell discussion
- ideas on reward/recognition programs
- Talbot's pitch (these were highly praised)

Panel "F" Participative Management and Middle Management

Comments:

Need "how to" for middle management

Helpful and thought-provoking:
- variations on participative management
- Westinghouse semi-autonomous team

Armor's presentation (good examples, exciting, down-to-earth)
best panel for form, substance, presentation

Panel "G" Specification, Preplanning, and Measurement

Comments:

Need more publicity of streamlining; these were interesting and worthwhile but too much data.

Prefer to have hard copies at beginning.
Should allow for questions after each speaker.
Should have information sharing.
Need an orderly progression from Government focus to industry application.

Time overrun was not negative because it was informative.
I especially liked luncheon and dinner speakers' philosophies of our leaders; Administrator's participation, examples of work underway.

Would like added next year:

Quantitative productivity, specific data, case studies, white-collar initiatives, awards selection criteria, measurements, "How to," other industries, annual update of industry, varied presenters, line managers, fewer speakers (more in-depth), blue collar worker and displacement issue, and the tailoring of NASA requirements.

Any additional comments:

Difficulty in following NASA panels, too general; consider specialty sessions and general sessions. NASA speakers were poor presenters, proceedings not available, too much repetition. Must educate Government and industry leaders. Impressed with Administrator's excellent reinforcement of NASA commitment to PIQE.

Critique Observations

As compared to the non-NASA panels, the NASA (A&B) panels were viewed as less well prepared and thought-provoking, and subsequently less effective. There were more critical and negative comments directed toward their members than to the other panels' members, and also as compared to the number of positive remarks addressed to them.

This was partly attributed to the content not containing enough detail. The comments were concerned with depth and presentation of the content. Generally, the NASA panel members were reported not specific enough when it came to "how to," "measurements," and the actual problems faced and solutions sought. They were not able to back up their presentations firmly with answers to attendees' questions with quantitative data.

One suggestion was having fewer speakers on panels who would delve deeper into the content. This would be more effective in probing the key issues more thoroughly, allowing for more speaker-attendee interaction. A speaker in this situation would most likely consider all the bases, since he or she is the sole performer. Attendees would get more out of this.

SURVEY CRITIQUE
2nd Annual NASA/Contractors Conference
Kennedy Space Center
June 19-20, 1985

June 19

NASA Panel "A" Interim Report on Implementation Plans

Comments

Good (effective):
- overview of past year
- actual examples
- emphasis on internal program

Fair (ineffective):
charts (too general)
- visuals
- "thresholds" unclear
- contract consolidation
- Award Fee concept questionable
- too NASA-oriented

Need more:
- handouts
- focus within panels
- center uniformity (policy)
- information on NASA employee productivity
- actual accomplishments at employee level
- sharing between centers

NASA Panel "B" Interim Report on Implementation Plans

Comments:

Good (effective):
- Contractor inputs to Annual Report
- emphasis on institutional funding (overdue)

Need improvement:
- Government side of management
- procurement (dry)
- Contractor Fee Pools
- Need "how to" improve Productivity
- too NASA-oriented
- Industry Relations Office did not fit the program

Panel "C" Quality in Relationship to Productivity

Comments:

Well done (effective):
- schedule good
- good cross-section of material
- well-thought-out
- good general applicability
- balanced out previous panels

Need improvement:
- management training
- spectrum of work subject to Q&P
- theme not adequately addressed

Panel "D" Productivity and Quality Initiatives

Comments

Well done:
- graphics (especially Siebert)
- KSC Award material good
- practical information

Need improvement:
- APC (more)
- lacked theme
- tiresome information on NASA/ Contractors suggestion program

June 20

Panel "E" Incentives for Productivity and Quality

Comments:

Well done:
- graphics
- well-thought-out
- good mix of theoretical and actual questions after each speaker

Contracting offices should have presented new ideas and insights.

Panel "F" From "Level of Effort" to "Mission Contracting"

Comments:

Good (effective):
- overall informative
- it clarified gray areas in relation to NASA/Contractors business
- solid data
- questions after each speaker
- no risks taken
- need to represent the customer
- need clear communication
- panel did not add much

Report on the Excellence Award for the Service/Support Contractors

Comments:

Informative
Excellently presented
Disappointed in lack of questions
Very contradictory
Different viewpoints

Comments:

Very well done:
- organization
- facilities
- staff
- planning
- luncheon speakers
- food
- logistics
- Administrator
- synergy

Need:
- more time for each to coordinate thoughts before panels present
- attendee participation
- better rooms for viewing materials
- round table discussions
- more specific and questions

Overlap of subjects and schedule adherence.

Especially liked EG&G; Motorola; KSC; Starr; Carroll; Beggs; Siebert; Boyle; Panel E.; Shill; Ahtye; Woods; examples of actions contrasted to philosophy, atmosphere, scheduling; approaches to involve total work force and insight into sharing of savings with contractor and workers; audience diversity; opportunity to gain valuable information; overview of Agency/Contractors operations nationally; the direction in which NASA and its centers are going with respect to contractors; Beggs' message (truth and serious nature).

I would like to see added next year:

Point-counterpoint format; case studies; mission critical work; measurement, a look at the blue collar work force; convince "unions" the United States is in trouble; water on tables; attendees' phone numbers; material display of programs/ideas used for P.I. update on who won first excellence award; films between panels; one day only; eliminate the interim report panels; employee incentive; management training; white collar measurement; outside experts; handouts before conference; productivity as a procurement request; revisit mission versus level of effort; pre-conference guidelines should have specific chairing guidelines; ask for preconference questions for NASA; more positive experience and results; appropriate time for each speaker, fewer panelists, greater depth; the relationship between planning and scheduling Quality and Productivity. More Comments: more public press on NASA productivity efforts; keep pressing from the top; tailor visual aid to environment; astronaut talk; NASA panels at end; 3 days; joint sessions with a mix of general and specific, clearer panel requirements; too much overlap; make available the NASA PIQE sticker. Fine job--Braunstein.

Critique Observations

As with the MSFC contractors conference, the NASA panels were not evaluated as highly as the contractors'. Although there was not the striking difference between NASA and non-NASA panels in this case as before, the overall ratings of the panels were higher at MSFC.

It seems to depend or where one is coming from (the person's individual perspective) that determines how he or she is going to assess the panel member's presentation. For example, if a person has interest in the topic, he or she may evaluate it higher than if not interested in it. On the same panel critique, there were two entirely contradictory

statements about the same person or topic--"I thought speaker X was exciting and thought-provoking"; on the other hand "I was bored by the talk of speaker X." For the most part, there was consistency in ratings, although some were overwhelming favorites. The profile of the favorite was the contractor who used graphics with minimum number of panelists, had depth of subject without too much detail, and used examples (data) and case studies.

Overall Critique of the Meetings

	Marshall	Kennedy
Excellent	34%	20%
Very Good	33%	23%
Good	21%	23%
Fair	2%	17%
Poor	0%	0%
No Comment	10%	17%

In the 1986 conference at Palo Alto, there were patterns in the answers that are worth noting and there was a consensus in some recommendations that applied to future conferences that would be most beneficial to all parties concerned. A breakout by panel subjects of pertinent quotes follows.

NASA Initiatives

"NASA continues to report on what they are doing to work with contractors to get them to participate in quality and productivity programs, but what is NASA doing internally to issue better statements of work and defining project requirements?"

"Interested in knowing the NASA point of view and degree of commitment at various centers." "Recognize past performance on competitions as something other than other factors or as a non-scored element."

Measurements

"Too general. I know this is a tough area, and one that NASA should keep high on the list for future meetings. We need to hear and discuss more in this area to eventually develop schemes that might work even though not an exact science."

"Good real-time, practical feedback on how others are measuring their performance."

"Directly applicable to my duties and responsibilities. A difficult subject but a timely one."

Gainsharing

"Good pertinent subject."

"Topic is current need and lends itself to creativity."

"Innovative."

"Good dynamic speakers and of most relevance to my job."

"Clear understanding of what, as a Contracting Officer, I should be looking for and encourage."

Standardization, Metrology and Calibration (M&C)

"Too technical for this type of conference."

"I would have preferred not to have selected this panel."

"I understand metrology and calibration but I doubt many others did."

"Standardization was too basic and metrology and calibration too complex."

"These subjects (M & C) difficult to follow."

Employee Involvement and Organizational Support

"This panel dealt most with what I deal with and gave me some new insight."

"Very upbeat."

"You gave me some good ideas for improving our environment and productivity."

"Most useful information to take back to the workplace and use in establishing our own productivity plan."

"Continue to develop participative management between NASA program office and contractors."

Subcontractor/Service Support Initiatives

"Why not 'Hardware' contractor initiatives?"

"Most meaningful content."

NASA Excellence Award Finalists Presentations

"Provided good insight and information on well-run companies which can be emulated."

"Excellence awards related to work we do."

"Related better to the work we do."

"Good to see systems that do well."

"Very informative, especially the multifaceted approach of McDonnell Douglas and outstanding schedule plan for small suppliers--Life Systems."

"Keep pushing the NASA Excellence Awards."

Suggestions for NASA To Improve Its Quality and Productivity

"Strive for a closer working relationship with your contractors."

"Pay better attention to its deteriorating facilities."

"Intra-agency standardization of standards."

"Encourage NASA Program personnel to get more involved in contributing to solutions to problems instead of hiding behind the umbrella of 'I'm the customer--you show me'."

"Keep up conferences--very informative--good balance here between NASA and contractors."

Recommendations for Fourth NASA/Contractors Conference

"Continue to schedule Administrator and get top NASA leaders to speak at conferences."

"More senior NASA representation, AA's and Center Directors on panels as Chairmen."

"Have pre-conference planning session with contractors to create agenda."

"More time available to get together with attendees and speakers--entire conference was booked with presentations."

"More workshop-type structure rather than lecture briefings."

"Coordinate in advance the presentations given in a single panel by different people because there was considerable overlap."

"Gainsharing from companies other than those doing business with the Government--Motorola, MDEC, TRW, and Honeywell."

"How do joint NASA/Contractors quality circles and suggestion programs work--Kennedy and Johnson?"

"Workshops on getting started on a PIQE program."

"Session on Measurements of white collar productivity."

"More detail on Kennedy and Johnson consolidated contracts."

"Panel on impediments to implementing an effective, total PIQE program and recommendations to overcome these impediments."

Talley Sheet of 1986 Survey

1986 Conference Organizations	
Excellent	19%
Very Good	48%
Good	30%
Fair	3%
Poor	0%

Willing To Be in 1987 Conference	
Panel Chairman	11%
Panel Member	11%
Attendee	78%

AGENDA
NASA/Contractors Productivity Council
Conference
Marshall Space Flight Center
April 26-27, 1984

April 26

8:00 - 9:00	Registration
9:00 - 9:10	Opening Remarks Morris Auditorium, Bldg. 4200, MSFC Harry Quong, Chairman, NASA/Contractors Productivity Council
9:10 - 9:20	Welcome Dr. William R. Lucas, Director, MSFC
9:20 - 10:00	Opening Address Mr. James M. Beggs, Administrator, NASA
10:00 - 11:10	Report A Aaron Cohen/Dick Gloor, Chairmen Communications/Direction

COUNCIL REPRESENTATIVES

Aaron Cohen
Director, Research Engineering
JSC

William F. Huseonics
KSC

David Winterhalter
Chief, External Tank Program
Headquarters

Richard Reeves
Deputy Director
Management Oprns. Directorate
GSFC

Phillip H. Taylor
Chief, Space Telescope Division
MSFC

Vernon J. Weyers
Deputy Director
Shuttle Centaur Project Office
LeRC

Jack Best, Corp. Dir. of
Quality and Productivity
General Dynamics

Lewis G. Sportelli
IBM
(Bethesda, MD)

L. Frank Adams
Deputy Manager
SRB Project Office
MSFC

Aubry King
Spacelab Program Office
MSFC

11:10 - 11:15	Break	
11:15 - 12:15	Report B	John Quann/Bob Young, Chairmen Service/Support Contractors

COUNCIL REPRESENTATIVES

James Bolander
Chief, Support Branch
Procurement Division
LeRC

A. B. Gorham, Jr., Project Dir.
NSTL/FOS
Pan Am World Services

John Quann
Deputy Director
GSFC

Paul Tobin, Gen. Mgr./System
and Support Services OPNS
Wyle Laboratories
(Hampton, VA)

William (Bill) Crawford
Procurement Policy Division
Headquarters

Linds R. Conway
KSC

Robert (Bob) Pike
Chief, Personnel Office
ARC

Edgar P. (Ed) Odenwalder
Manager of Support Contracts
JSC

Stephen B. Rohr
Assistant to the Director
Administration and Program Support
MSFC

Charles A. Rounds
Bendix Corporation
(GSFC Bldg. 14)

Dave Dallas, Business Planning
Mgr., Productivity Coordinator
For Aerospace and Communication
Corporation

Robert R. Lynch, Program Dir.
Kentron International
(LeRC)

Klate Holt, President
Klate Holt Company

Bob Young, President
LEMSCO

12:15 - 1:30 Lunch

1:30 - 2:30 Report C

Andy Pickett/George Merrick
Contract Actions/Incentives

COUNCIL REPRESENTATIVES

Andy Pickett
Associate Deputy Director
KSC

Dave Wright, Mgr.
Advanced Marketing Devel.
GE

Joseph Garcia
Director, Procurement
Operations Division
Headquarters

George Merrick
Rockwell

Robert E. (Gene) Easley
Chief, Shuttle Space Craft
Procurement Branch
JSC

Michael Ladomirak
Chief, Program Procurement
Division
GSFC

John H. Sims
Manager, Program Engineering
Spacelab Payload Project Office
MSFC

Parker V. Counts
INS Project Office
MSFC

Ronald N. Abraham
Manager, Program Engineering
External Tank Program
MSFC

John Viger
Deputy Chief, Procurement and
Contracts Division
NSTL

Pete Sivillo
Technical Staff
Singer Link

Eugene Krouse
Teledyne Systems

J. P. Kingfield
Vice President
Grumman

J. R. (Jim) Hohimer
Mgr., Product Assurance
Sperry

Wesley H. Dean
Chief, Cost and Pricing
KSC

Dr. Arthuro Silvestrini
Div. Pres./Systems Service Div.
CSC

2:30 - 3:30 Report D

Milt Beheim/Lloyd Harrison
Standardization/Preplanning/Regulations/
Requirements

COUNCIL REPRESENTATIVES

William Kivett
Deputy Chief Procurement
LaRC

Milt Beheim
Director of Aeronautics
LeRC

B. J. McCarthy
Manager, SR and OA Support
JSC

Paul Mowatt
Asso. Director for New Projects,
Flight Projects Directorate
GSFC

Robert L. Vaughn
Dir. of Productivity
Lockheed

Thomas R. Brown
VP, Project Manager
PRC

Bruce Aaront, VP
Quality Assurance
Space Comm.

Harry L'Henreux
Dir. of Contracts NASA System
Div.
Space Communications Group
Hughes Aircraft

Sidney P. Saucier
Project Manager
INS Project Office
MSFC

Bob Finkelstein
Space Technology Directorate
LeRC

Bob Karpen
Office of the Director
Reliability and Quality Assurance
Headquarters

William Yurkowsky
Dir./R&QA
EGG

Fred Godwin, Product Mgr.
Space Life Support Systems
Hamilton Standard

Lloyd Harrison
Dir. of Product Assurance
Hughes

Dominic J. Juarez, Manager
Electro Optical Systems
ITT

3:30 - 3:45 Break

3:45 - 4:45 Report E

Bill Reynolds/Robert Hager
Productivity/Quality Initiatives

COUNCIL REPRESENTATIVES

Bill Reynolds
Associate Director for Management,
Science and Engineering
MSFC

Arthur Welch
Dir. of Product Assurance
Martin Marietta (Michoud)

Jana Coleman
Deputy Chief, Procurement
Acting Deputy, Administration
ARC

James E. Sloan
VP of Raytheon
Raytheon Service Co.

T. J. (Jeff) Adams
Chief, Quality Assurance Division
JSC

David L. Dallob, Staff VP
Operations Development
Sperry

Glade Woods
PIQE Coordinator
NSTL

Dr. Louis (Glenn) Jamar
Dir., Productivity Improvement
United Technologies
United Space Boosters

Stephen Fogleman
Asst. Dir. for Planning and
Implementation
Materials Directorate
GSFC

Lewis M. Cerreta
Principal Asst. to VP
Manufacturing
Goodyear Aerospace

James H. Ehl
Chief, Tooling Application Branch
Materials and Processing Laboratory
MSFC

Robert Hager
VP, Engineering
Boeing

Dr. Gordon A. Smith
VP, Systems Effectiveness
Fairchild

Harold (Harry) Flatten
Stf. Asst. to Dir. of Product Assurance
Honeywell

Robert L. Vaughn
Director of Productivity
Lockheed

4:45 - 5:00	Summary	Harry Quong Director, Reliability, Maintainability, and Quality Assurance Division, NASA Hq.
6:00 - 7:00	Social Hour	Redstone Arsenal Officer's Club
7:00 - 9:00	Dinner Guest Speaker	Redstone Arsenal Officer's Club Mr. Thomas J. Murrin, President Engineering and Advanced Technology Group Westinghouse Electric Corp.

April 27

8:30 - 9:15	NASA Productivity Program	David R. Braunstein Director NASA Headquarters
9:15 - 9:45	GRO Productivity Incentives "The Contractor's Viewpoint"	Don Stager, GRO Project Manager, TRW
9:45 - 10:15	GRO Productivity Incentives "The Government's Viewpoint"	John Quann, Deputy Director, Goddard Space Flight Center
10:15 - 10:30	Break	
10:30 - 12:15	Individual Working Groups	Concurrent sessions for discussion
12:15 - 1:15	Lunch	
1:15 - 2:45	Working Group Wrap-ups	Morris Auditorium
2:45 - 3:00	Summary - Plans of Actions	Harry Quong NASA Hq.
3:00	Adjourn	

AGENDA
2nd Annual NASA/Contractors Conference
Marshall Space Flight Center (MSFC)
June 12-13, 1985

June 12

7:00	Breakfast (Individual)
8:00 - 8:10	Welcome Dr. William Lucas, Center Director, MSFC
8:10 - 8:35	Keynote Speaker Mr. James M. Beggs, Administrator, NASA
8:35 - 8:45	Introduction Mr. David R. Braunstein, Director, NASA Productivity Programs
8:45 - 10:15	NASA PANEL "A" INTERIM REPORT ON IMPLEMENTATION PLANS T. J. Lee, Deputy Center Director, MSFC (Chairman) Aaron Cohen, Director of Research and Engineering, Johnson Space Center (JSC) Richard F. Carlisle, Office of Space Station, NASA David L. Winterhalter, Office of Space Flight, NASA
10:15 - 10:35	Break
10:35 - 12:00	NASA PANEL "B" INTERIM REPORT ON IMPLEMENTATION PLANS Harry Quong, Office of the Chief Engineer, NASA, (Chairman) Milton Beheim, Chief Engineer, Lewis Research Center (LeRC) John E. Horvath, Office of Procurement, NASA Richard A. Reeves, Management Operations Directorate, Goddard Space Flight Center, (GSFC)
12:00 - 1:30	Luncheon Speaker: Egils Milbergs, Deputy Assistant Secretary, Productivity, Technology, and Innovation, Dept. of Commerce Topic: "The Report of the President's Commission on Industrial Competitiveness."

1:30 - 3:00 PANEL "C" PRODUCTIVITY INITIATIVES/INCENTIVES

John Black, Quality Improvement Manager, Boeing Aero Space Company (Chairman). "Setting the Stage for Long-Term Improvement."

Steven Hendrickson, Manager of Excellence Plus, IBM Corp. "Productivity Thru Yield Management."

William Reynolds, Director for Management Science and Engineering, MSFC. "Pilot Test Results of APC White Collar Study at Marshall."

Alinda Giansirocusa, Manufacturing Technology Group Engineer, General Dynamics, Convair. "Productivity Circles at General Dynamics--Convair."

Douglas Marshall, Director of Productivity, Northrop Corp., Aircraft Division. "Productivity Improvement in Human Resources."

3:00 - 3:20 Break

3:20 - 5:00 PANEL "D" QUALITY IMPROVEMENT INITIATIVES

Lloyd Harrison, Director, Product Assurance, Space and Communications Group, Hughes Aircraft Company (Chairman)

Clyde Nevins, Chief, Structures Division, Structures and Propulsion Laboratory, MSFC. "Improving Productivity and Quality Through Computer Aided Design."

Emmanuel Malone, Manager Quality Assurance and Test, Space Systems Division, General Electric. "Leveraging Quality as a Business Opportunity."

Art Welch, Director, Product Assurance, Martin Marietta Aerospace/Michoud. "Quality Self-audits Effectively Enhance Quality and Productivity."

Louis G. Sportelli, Director of Quality, IBM Federal Systems Division. "Successful Approaches to Subcontractor Quality."

Dr. John B. Peller, Vice President, Engineering, Space Transportation Systems Division, Rockwell International. "The Triad of Excellence" (A unique approach to productivity).

6:00 - 7:00 Reception

7:00 - 9:00 Dinner

Speaker: Sanford N. McDonnell, President, McDonnell Douglas Corp.

Topic: "Five Keys to Self-Renewal"

June 13

7:00	Breakfast
8:00 - 8:15	Introduction David R. Braunstein, Director, NASA Productivity Programs
8:15 - 9:45	PANEL "E" PRODUCTIVITY AND QUALITY INCENTIVES
	Richard D. Gloor, Director of Design Integrity and Productivity, TRW Inc. (Chairman)
	Glen L. Hogan, Director, Quality/Productivity Space and Strategic Division, Honeywell, Inc. "Employee Recognition and Incentive Programs."
	G. Wayne Talbot, Manager, Participative Management Program, Govt. Electronics Group, Motorola, Inc. "Participative Management and Gain Sharing Programs."
	Donald C. Stager, Manager, Gamma Ray Observatory Program, Space and Technology Group, TRW, Inc. "Gamma Ray Observatory."
	Thomas R. Kloves, Manager, Program Management Office, Space Station Program, JSC. "Space Station Contracting Approaches."
9:45 - 10:05	Break
10:05 - 11:35	PANEL "F" PARTICIPATIVE MANAGEMENT AND MIDDLE MANAGEMENT
	Dick Walsh, Vice Chairman, Top Quality/Productivity Program, General Electric, Space Systems Division. (Chairman)
	Charles P. Boyle, Special Programs Office Management Operations Dir., GSFC. "The Nature of Quality."
	Christine R. Dreyfus, Refinement Team, Process Facility, Martin Marietta/Michoud. "Participative Management Can Increase Productivity and Enhance Quality."
	Vivian Armor, Manager, Organizational Development, Westinghouse Defense Electronics Center. "Employee Involvement at Westinghouse."
	George Robson, Consultant, Techncial Management Education, General Electric Consulting Engineering and Manufacturing. "Quality and Productivity Through Individual Excellence and Participative Management."
11:35 - 1:00	Speaker: James Toreson, President and Chief Executive Officer, XEBEC
	Topic: "Can Manufacturing Survive in the U.S.?"

1:00 - 2:30 PANEL "G" SPECIFICATION, PREPLANNING, AND MEASUREMENT

Z. Henry Hyman, Corporate Director, Technical Management Systems, General Dynamics, Covair. (Chairman)

Harry Quong, Office of the Chief Engineer, NASA "Specification Standardization."

B. A. Hardesty, Corporate Director, Technical Management Systems, McDonnell Douglas Corp. "Streamlining the Acquisition Process."

Francis T. Hoban, Office of Space Station, NASA. "Space Station Pre-planning."

Wilber Wilhelm, Director of Productivity Rockwell International/Rocketdyne. "Rocketdyne Results from the White Collar Productivity Improvements Projects."

2:30 - 2:45 Closing remarks and adjournment
David Braunstein

3:00 - 5:00 Optional tour of Marshall Space Flight Center

AGENDA
2nd Annual NASA/Contractors Conference
Kennedy Space Center (KSC)
June 19-20, 1985

June 19

7:00	Breakfast
8:00 - 8:10	Welcome Mr. Richard G. Smith, Center Director, KSC
8:10 - 8:35	Keynote Speaker Mr. James M. Beggs, Administrator, NASA
8:30 - 8:45	Introduction Mr. David R. Braunstein, Director, Productivity Programs, NASA
8:45 - 10:15	NASA PANEL "A" INTERIM REPORT Andy J. Pickett, Associate Deputy Director, KSC (Chairman) Warren F. Ahtye, Deputy Chief Engineer, Institutional Operations, Ames Research Center (ARC) William R. Kelly, Director, Center Support, JSC Richard F. Carlisle, Office of Space Station, NASA
10:15 - 10:35	Break
10:35 - 12:00	NASA PANEL "B" INTERIM REPORT John Stokes, Director for Management Operations, Langley Research Center (LaRC). (Chairman) John E. Horvath, Office of Procurement, NASA Sharon L. Christy, Office of Aeronautics and Space Technology, NASA Richard A. Reeves, Management Operations Directorate, Goddard Space Flight Center (GSFC)
12:00 - 1:30	Luncheon Speaker: Dr. Martin K. Starr, Professor of Production and Operations Management, Director of the Center for Operations, Graduate School of Business, Columbia University Subject: "The Adaptability of Management: Winners and Losers"

1:30 - 3:00 PANEL "C" QUALITY IN RELATIONSHIP TO PRODUCTIVITY

David Dallas, Business Planning Manager, Productivity Coordinator, Ford Aerospace and Communications Corp. (Chairman)

Charles P. Boyle, Special Programs Officer, Special Programs Office, GSFC. "Management and Quality."

George Foenza, Director, KSC Division, McDonnell Douglas Technical Services Company. "Quality and Its Relationship to Productivity."

Allen B. Gates, Ph. D., Assistant General Manager, Space Information Systems Division, Ford Aerospace and Communications Corp. "High Quality Means High Productivity and Short Schedules."

Herbert B. Rogers, Ph. D., Director, Organizational Effectiveness and Productivity, Lockheed Engineering and Management Services Company. "Organizational Cousins--Quality and Productivity."

3:00 - 3:20 Break

3:20 - 5:00 PANEL "D" PRODUCTIVITY AND QUALITY INITIATIVES

Richard L. Taylor, Vice President, Advanced Operations, System Sciences Division, Computer Sciences Corporation. (Chairman)

Leo A. Broun, Productivity Improvement and Quality Enhancement Coordinator, Pan American World Services, Inc. "Quality Circles Program at NSTL."

Sandra L. Maloga KSC Incentive Awards Officer, KSC. "KSC Employee Suggestion Program."

Charles J. Downs, Director, Productivity Improvement Operations, McDonnell Douglas Astronautics Company. "APC Program at McDonnell Douglas."

Edward G. Siebert, Director of Corporate Productivity, Grumman Corporation. "Industrial Modernization Incentive Program at Grumman."

6:30 - 7:30 Reception

7:30 - 9:00 Dinner

Speaker: Ted E. Woods, Manager, Aerospace Electronics Office, Motorola Inc.

June 20

Breakfast

8:00 - 8:15 Introduction: David R Braunstein, Director, NASA Productivity Programs

8:15 - 10:15 PANEL "E" INCENTIVES FOR PRODUCTIVITY AND QUALITY

William Yurkowsky Director, Reliability and Quality Assurance, EG&G Florida (Chairman)

John Hill, Partner/General Manager, Klate Holt Company. "Improving Employee Productivity Through Employee Incentives."

J. N. Foster, Director Administration and Program Support, Marshall Space Flight Center (MSFC). "Award Fee Process as Incentive for Productivity and Quality."

Dan Nettuno, Personnel Manager, Grumman Tech Services, Inc. "Employee Recognition and Incentive Programs at Grumman."

Wayne Talbot, Manager of Participative Management Program, Motorola Government Electronics Group. "Motorola Participative Management Program."

Kenneth T. Olson, Manager, Human Resources, EG&G Florida. "Management and Supervisor Training for Productivity."

10:15 - 10:35 Break

10:35 - 12:15 PANEL "F" FROM "LEVEL OF EFFORT" TO " MISSION CONTRACTING"

Robert Young, President, Lockheed Engineering and Management Services Company. (Chairman)

Powell Hinson, Deputy Program Manager, DPOSS, LEMSCO, GSFC. "Measuring Productivity Performance on Mission Contracts."

Peter Boykin, Vice President, Applied Technology Division, Central Division, Johnson Space Center (JSC). "Converting Parts of LOE Contracts to Mission Completion."

Francis Shill, Vice President, Aerospace Programs, Pan American, KSC. "Differences Between Managing LOE and Mission Contracts."

James Rice, Deputy Director, Center Support Operations, KSC. "NASA (KSC) Experience in Contract Consolidation and Conversion to Mission Contracts."

12:15 - 1:45 Luncheon

Speaker: Robert Carroll--President and CEO, SYS.

Subject: "Experiences in Improving Quality"

1:45 - 2:45	REPORT ON THE EXCELLENCE AWARD FOR THE SERVICE/ SUPPORT CONTRACTORS
	E. Glade Woods, Chief, Technical Operations Branch, National Space Technology Laboratories (NSTL)
2:45 - 3:00	Closing Remarks and Adjournment: David Braunstein
3:00 - 5:00	Optional Tour of Kennedy Space Center

AGENDA
3rd Annual NASA/Contractors Conference Program
The Holiday Inn
Palo Alto, California
May 7-8, 1986

May 6	Registration and Cash Bar Hospitality Session
May 7	
7:00	Breakfast and Late Registration
CYPRESS ROOM	
8:00 - 8:10	Welcome
8:10 - 8:45	Keynote Speaker Dr. William R. Graham, NASA Acting Administrator (Unable to attend. Dr. Ballhaus read Dr. Graham's speech.)
8:45 - 9:00	Introduction David R. Braunstein, Director, Douglas Aircraft Company
9:00 - 10:15	NASA PANEL "A" INITIATIVES REPORT 1 Robert C. Goetz, Deputy Director, Johnson Space Center "Productivity Improvement: Phase II." Chairman Andrew Pickett, Associate Deputy Director, Kennedy Space Center. "Productivity Initiatives: Progress Report." William Reynolds, Director of Productivity, Marshall Space Flight Center. "Productivity Improvement and the Contractor--NASA Interface." Mark Payne, Manager, Installation Operations, National Space Technology Laboratories. "Incentive Features in Support Service Contracts."
10:15 - 10:45	Break

10:45 - 12:00 NASA PANEL "B" INITIATIVES REPORT 2

Frederick P. Povinelli, Assistant Associate Administrator for Management, Office of Aeronautics and Space Technology. "Office of Aeronautics and Space Technology Initiatives." (Chairman)

Richard A. Reeves, Associate Director, Ames Research Center. "Ames Productivity Program."

Robert R. Moore, Jr., Chief, Acquisition Division and Procurement Officer, Langley Research Center. "Competition in Contracting Act (CICA) Promotes Communication at Langley Research Center."

Warner Stewart, Director of Engineering and Technical Services, Lewis Research Center. "Productivity Activities at Lewis Research Center."

12:00 - 1:45 Luncheon

Speaker: Willard L. Kauffman, Vice President and Director of Components Quality and Reliability INTEL Corporation. "Meeting the Japanese Challenge."

2:00 - 3:15 PANEL "C" MEASUREMENTS

Mr. William L. Williams, Productivity Officer, Langley Research Center. (Chairman)

Shoni Dhir, Manager of Productivity, LTV Aerospace and Defense Company: "Productivity Measurement within LTV--Aerospace."

Edmond Ellis, Florida Operations Cost Reduction Manager, Pratt and Whitney, United Technologies. "Productivity Measurement at the Government Products Division."

William Henderson, Head, Propulsion Aerodynamics, Transonic Aerodynamic Division, Langley Research Center. "Research on Productivity and its Measure in an Experimental Research Branch."

3:15 - 3:45 Break

3:45 - 5:00 PANEL "D" GAINSHARING

John D. Wolf, Vice President and General Manager, McDonnell Douglas Electronics Company. (Chairman)

G. E. (Gene) Foster, Chief Contract Operations, Defense Logistics Agency, Defense Contractor Administrative Services Management Area. "Productivity Gainsharing: An Administrative Contracting Officer's Perspective."

James W. Thomas, Vice President, Motorola, Inc., Government Electronics Group. "PMP Criteria for Sharing Cost Savings."

Curtis White, Director Human Resources, Space and Strategic Avionics Division, Honeywell, Inc. "Hi-Gain, Honeywell's Pilot Gainsharing Program."

6:00 - 7:00 Reception

7:00 - 9:00 Dinner

Speaker: Malcolm T. Stamper, Vice Chairman, The Boeing Company. "Progress Through Productivity."

May 8

7:00 - a.m. Breakfast

8:00 - 9:15

CYPRESS ROOM

PANEL "E1" STANDARDIZATION (HARDWARE)

William F. Bangs, Chief, Assurance Requirements Office, Goddard Space Flight Center. (Chairman)

Richard H. Weinstein, Office of the Chief Engineer, NASA. "Progress Towards Common Standards."

George J. Murphy, Executive Vice President and General Manager, USBI Booster Production Company, Inc. "Quality Initiatives at USBI--Booster Production Company, Inc."

Donald J. Langlais, Supervisor, Parts Reliability Engineering Section, Ford Aerospace and Communications Corporation. "High Reliability Parts--The Challenge To Control Both Reliability/Quality and Cost."

RECEPTION ROOM

PANEL "E2" PRODUCTIVITY IMPROVEMENTS IN METROLOGY AND CALIBRATION (SERVICE SUPPORT)

P. Woody Tramel, Manager of Standards and Calibration, EG&G Florida. (Chairman)

John Schwabe, Senior Engineering Section Head, Sperry Systems Management. "Automated Calibration at Goddard."

John Lindsey, Manager Field Operations Group, Wyle Laboratories. "The Impact of Automation on Productivity."

Michael Zall, Resident Manager, Metrology, Simco Electronics. "OSCARS, the Way of the Future."

9:15 - 10:30

CYPRESS ROOM

PANEL "F1" EMPLOYEE/ORGANIZATIONAL INVOLVEMENT AND SUPPORT (HARDWARE)

Mrs. Mary E. Nickerson, Manager, Total Quality Organizational Development, Hughes Aircraft Company, Space and Communications Group. "Employee Involvement at the Space and Communications Group." (Chairman)

John R. Dewane, Vice President and General Manager, Commercial Aviation Division, Honeywell, Inc. "Employee Involvement--Commercial Aviation Division: Successful Experience."

Robert F. Thompson, Vice President, Space Station Program, McDonnell Douglas Astronautics Company "Keyes to MDAC Space Station Productivity Improvements."

William F. Nelson, Jr., Chief, Program Planning Office, Space Shuttle Projects Office, Marshall Space Flight Center. "Shuttle Project: Productivity Program."

RECEPTION ROOM

PANEL "F2" EMPLOYEE/ORGANIZATIONAL INVOLVEMENT AND SUPPORT (SERVICE SUPPORT)

Dr. Riley D. McCafferty, General Manager, Space Programs Operations, Singer-Link. "A System/Program Management Approach to Productivity Improvements." (Chairman)

Leo Braun, Performance Assurance Officer, Pan American World Services. "Implementing Change - Selling the Program."

Robert G. Dubinsky, Director of Productivity and Quality Improvements, Computer Sciences Corporation. "Computer Sciences Corporation: Initiatives to Improve Quality and Productivity in a Software/Systems Engineering Environment."

Richard Remsen, Director of Management Systems, EG&G Florida. "Management Involvement in the Productivity Process--The Initial Commitment."

10:30 - 11:00 Break

11:00 - 12:15

CYPRESS ROOM

PANEL "G1" SUBCONTRACTOR INITIATIVES (HARDWARE)

Edward G. Siebert, Director Productivity, Grumman Corporation. (Chairman)

Dr. Merle J. Aleshire, Director of Productivity, General Dynamics, Convair Division. "Supplier Motivation."

Scott Kaseburg, Manager, Quality Improvement, Boeing Aerospace Company. "Working With Supplier."

Edmund Muehleck, Director of Operations, Fairchild Weston. "Resourceful Productivity/Quality Programs."

RECEPTION ROOM

PANEL "G2" SERVICE SUPPORT INITIATIVES

R.B. (Bob) Young, Jr., President, Lockheed Engineering and Management Services Company, Inc. (Chairman)

James H. Chappee, Manager, Project Engineering, Boeing Aerospace Operations. "Automation of Analysis Techniques."

Ms. Anne S. Suter, Program Management Analyst, Sr., Northrop Services, Inc. "Utilization of Personnel."

George R. Tilley, Manager, Development Programs, Singer-Link, Space Programs Operations. "Improving Maintenance Productivity Via the Systems Management Approach."

12:15 - 1:30 Luncheon

Speaker: Barbara Morgan, Teacher in Space. "Needs of the Future Work Force."

1:30 - 3:15

CYPRESS ROOM

PANEL "H" NASA EXCELLENCE AWARDS

Harry Quong, Director Reliability, Maintainability, and Quality Assurance, Office of the Chief Engineer, NASA. (Chairman)

Robert Searson, Manager of Administration, Life Systems, Inc. "Structuring a Successful PIQE Program in a Small Organization."

Saul Locke, Manager Productivity, Martin Marietta Aerospace, Michoud Division. "Productive PIQE Processes at Martin Marietta Michoud Division."

Henry Lange Director, Performance Improvement Programs, McDonnell Douglas Astronautics. "Self Renewal: A Continuous Improvement Process."

Edmond Ellis, Florida Operations Cost Reduction Manager, United Technologies, Pratt and Whitney, Government Products Division. "Florida Operations Cost Reduction."

William H. Bateman, Jr., Quality Control Manager, Reynolds Metals Company. "Reynolds Metals Company. "Reynolds Aluminum: Our Quality Shines Through."

Dwight Woolhouse, Manager, Product Quality Engineering, Space Transportation Systems Division, Rockwell International. "Productivity and Product Quality Never Ends."

Debra Ownes, Technical Director, American Society for Quality Control.

3:30 - 5:30 Tour of Ames Research Center (optional).

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